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EXAMINER	
FISCHER, JUSTIN R	

ART UNIT	PAPER NUMBER
1791	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/591,017	RE FIORENTIN ET AL.	
	Examiner	Art Unit	
	Justin R. Fischer	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 December 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31 and 33-52* is/are pending in the application.

4a) Of the above claim(s) *51 and 52* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31,33-40,42-47 and 50* is/are rejected.

7)☒ Claim(s) *41,48 and 49* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 3-15, 21-23, and 25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent claim 1 defines a tire construction including a tubular reinforcement body defined by an annular belt and a plurality of blocks. The above noted dependent claims, however, appear to be directed to an alternative embodiment in which the tubular reinforcement body is devoid of a belt and a plurality of blocks (defined by corrugated structure having apertures as depicted in Figures 1-4). It is emphasized that the respective embodiments appear to be mutually exclusive in that the original disclosure never disclosed, for example, the use of apertures in the tread in combination with a tubular reinforcement body comprising a plurality of blocks (and vice versa). In essence, it appears that the dependent claims are actually a combination of mutually exclusive embodiments and such was not described in the original disclosure.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 45 and 46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims require a "means for reaction" that can apply action which opposes that which generates a relative displacement of the blocks and is interposed between the belt and the blocks- such is described as bead depicted in Figure 10 as bead 52a (Page 12, Lines 4-18). The drawings, however, fail to include such a reference character and it is unclear exactly what component the claims are referring to and how it is arranged within or adjacent to the elastomeric tubular body. Applicant is asked to clarify the scope of the claimed invention without the introduction of new matter.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 2, 17-19, 24, 26-30, 33-40, 47, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson (US 4,170,254) and further in view of Markow (US 4,456,048). As best depicted in Figure 9, Jackson teaches a tire construction including a tread, a pair of sidewalls, and a pair of beads, wherein said sidewalls comprise resilient annular membranes with a straight generatrix which forms an angle other than 90 degrees with respect to the tire rotational axis. Jackson,

however, is silent with respect to the inclusion of a tubular reinforcement body comprising an annular belt and a plurality of blocks.

Markow, on the other hand, teaches a tire construction including a tread, a pair of sidewalls, and a pair of beads, wherein a tubular elastomeric body or dual-modulus band 36 is provided beneath said tread and between respective sidewalls in order to enhance tire performance in an underinflated running condition (Column 1, Lines 2-10). In this instance, said tubular elastomeric body comprises an annular belt 38 and a plurality of blocks 40, wherein said blocks are forced against one another as a result of compression on the tire during rotation of the tire (Column 6, Lines 49-35). One of ordinary skill in the art at the time of the invention would have found it obvious to include such a tubular body in the tire of Jackson, in view of Markow, in order to provide the above noted benefits, which would have been desired in nearly all modern day tire constructions.

With respect to claim 2, said body is parallel to the axis of rotation of and has an axial dimension that is "substantially" the same as that of the tread.

Regarding claim 17, said annular membranes converge towards one another at a point inside the tire.

As to claims 18 and 19, said annular membranes have a "substantially" rectangular cross-section that is "substantially" constant in the radial direction.

With respect to claims 23 and 36, Figure 1 of Markow expressly depicts the tread as being attached or vulcanized to the outer surface of said elastomeric tubular body.

Regarding claim 26, the claim is directed to a method of pre-tensioning the tire and such does not further define the structural makeup of the claimed tire article.

As to claims 27-30, the sidewalls of Jackson are described as consisting wholly of rubber, preferably a rubber material harder than the tread rubber (Column 2, Lines 13-15). One of ordinary skill in the art at the time of the invention would have recognized such language as including each of the well known and conventional diene based rubbers, such as polybutadiene and polyisoprene rubbers. It is further noted that applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed rubbers.

With respect to claim 33, blocks 40 project towards to the interior of the tire (Column 6, Lines 49+).

Regarding claims 34 and 35, annular belt 38 is simply described as being a substantially solid annular body section (Column 6, Lines 49+). The layer is further depicted with cross-hatchings in Figure 2 and such is recognized as describing an elastomeric or rubber material. Furthermore, as is extremely well known and conventional in the tire industry, elastomeric compositions are extensively disclosed as including reinforcing elements, for example in the form of chopped fibers or yarns (analogous to claimed reinforcement threads), to provide increased reinforcement. It is emphasized that tire elastomeric compositions are conventionally disclosed as including fiber reinforcement and applicant has not provided a conclusive showing of unexpected results for the claimed arrangement.

As to claim 37, the elastomeric tubular body of Markow has the capability of being replaced after experiencing a certain amount of wear (claims do not positively require a replacement step as they are directed to tire article).

With respect to claim 38, the claims pertain to the method of attaching the tread and the body and such limitations do not further define the structure of the claimed tire article. It is further noted that treads are conventionally glued to the underlying base structure and such would have been well within the purview of one having ordinary skill in the art at the time of the invention.

As to claims 39 and 40, adjacent blocks 40 or 44 are separated from one another by notches or slots 42 and said slots are tapered toward one another in a stressed condition (Figure 4) and extend in a direction that is "substantially" parallel to the tire rotational axis.

As to claim 47, blocks 40,44 are solid bodies.

With respect to claim 50, blocks 40,44 are attached to the annular belt 38 to define an integrated structure and such is seen to satisfy the claimed invention.

7. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson and Markow as applied in claim 27 above and further in view of Robert (US 6,503,973). As detailed above, the tire sidewall membranes are described as being wholly formed of rubber, as is common in the tire industry. While the reference fails to describe specific rubber compositions, the claimed composition represents a known tire rubber composition that provides excellent mechanical properties while maintaining processing characteristics, as shown for example by Robert (Column 1, Lines 15-25 and Column 9,

Lines 25+). It is further noted that Robert recognizes that such improved properties are desired in tire sidewalls. As such, one having ordinary skill in the art at the time of the invention would have found it obvious to use the claimed rubber for the tire sidewall membranes, there being no conclusive showing of unexpected results to establish a criticality for the claimed rubber composition.

8. Claims 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson and Markow as applied in claim 39 above and further in view of Girault (US 6,923,233) and Takeuchi (JP 08099508). As detailed above, Jackson in view of Markow teaches a tire construction having straight sidewall membranes inclined at an angle different from 90 degrees with respect to the tire rotational axis and including an elastomeric tubular body comprising an annular belt and a plurality of blocks. Additionally, said plurality of blocks are separated from another by axially extending grooves or slots that close upon application of a load. While Markow fails to describe an embodiment in which blocks are connected to one another, it is known in the tire industry to use such a construction when it is desired for adjacent block to contact one another under a loaded condition, as shown for example by Girault and Takeuchi. It is emphasized that such a construction represents a known alternative in the tire industry and remains consistent with the desire of Markow for adjacent blocks to contact one another in a loaded condition. As such, one having ordinary skill in the art at the time of the invention would have found it obvious to form the blocks of Markow in accordance to the claimed invention, there being no conclusive showing of unexpected results to establish a criticality for the claimed invention.

9. Claims 1 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (US 3,789,899) and further in view of Markow. Kobayashi, as best depicted in Figure 1, teaches a tire assembly including a tread, a pair of sidewalls, and a pair of beads, wherein said sidewalls comprise resilient annular membranes with a straight generatrix which forms an angle other than 90 degrees with respect to the tire rotational axis. Kobayashi, however, is silent with respect to the inclusion of a tubular reinforcement body comprising an annular belt and a plurality of blocks.

Markow, on the other hand, teaches a tire construction including a tread, a pair of sidewalls, and a pair of beads, wherein a tubular elastomeric body or dual-modulus band 36 is provided beneath said tread and between respective sidewalls in order to enhance tire performance in an underinflated running condition (Column 1, Lines 2-10). In this instance, said tubular elastomeric body comprises an annular belt 38 and a plurality of blocks 40, wherein said blocks are forced against one another as a result of compression on the tire during rotation of the tire (Column 6, Lines 49-35). One of ordinary skill in the art at the time of the invention would have found it obvious to include such a tubular body in the tire of Kobayashi, in view of Markow, in order to provide the above noted benefits, which would have been desired in nearly all modern day tire constructions.

Lastly, regarding claim 1, it is recognized that the tire of Figure 1 is prior to vulcanization (Column 7, Lines 60+); however, the claims as currently drafted fail to define the tire as a vulcanized tire.

Regarding claim 16, the sidewall membranes of Kobayashi converge on another at a point outside the tread.

10. Claims 1, 16, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flebbe (DE 3604023) and further in view of Markow. As best depicted in Figures 1 and 2, Flebbe teaches a tire construction including a tread, a pair of sidewalls, and a pair of beads, wherein said sidewalls comprise resilient annular membranes with a straight generatrix which forms an angle other than 90 degrees with respect to the tire rotational axis. Flebbe, however, is silent with respect to the inclusion of a tubular reinforcement body comprising an annular belt and a plurality of blocks.

Markow, on the other hand, teaches a tire construction including a tread, a pair of sidewalls, and a pair of beads, wherein a tubular elastomeric body or dual-modulus band 36 is provided beneath said tread and between respective sidewalls in order to enhance tire performance in an underinflated running condition (Column 1, Lines 2-10). In this instance, said tubular elastomeric body comprises an annular belt 38 and a plurality of blocks 40, wherein said blocks are forced against one another as a result of compression on the tire during rotation of the tire (Column 6, Lines 49-35). One of ordinary skill in the art at the time of the invention would have found it obvious to include such a tubular body in the tire of Kobayashi, in view of Markow, in order to provide the above noted benefits, which would have been desired in nearly all modern day tire constructions.

Lastly, regarding claim 1, it is recognized that the tire of Figures 1 and 2 is positioned on a measurement device; however, the claims as currently drafted are not

directed to a wheel assembly comprising a tire and a rim- the claims simply define a tire having a specific construction and such is satisfied by the tire of Flebbe in view of Markow. Furthermore, it is emphasized that Flebbe is broadly directed to a measurement method for tire constructions and such would include the tire of Markow including an elastomeric tubular body.

Regarding claim 16, the sidewall membranes of Flebbe converge on another at a point outside the tread.

As to claim 20, the beads of Flebbe comprise annular projections that have the capability of being mounted on a corresponding rim assembly (see Figures 1 and 2).

Allowable Subject Matter

11. Claims 41, 48, and 49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takusagawa (JP 53000503), Matsumara (JP 2002-29212), Kawabata (JP 51-151701), and Continental (DE 2348038) disclose tire constructions having similar features to that required by the claimed invention, including sidewall inclination and bodies defined by a plurality of adjacent blocks.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Justin Fischer
/Justin R Fischer/
Primary Examiner, Art Unit 1791
February 10, 2010